

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

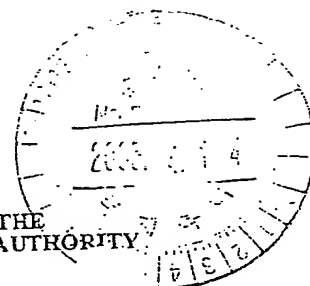
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 13 APRIL 2005 (13.04.2005)Applicant's or agent's file reference
4FPO-12-11

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/KR2005/000075

International filing date (day/month/year)

10 JANUARY 2005 (10.01.2005)

Priority date (day/month/year)

09 JANUARY 2004 (09.01.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC7 A61K 48/00, A61P 35/00

Applicant

MOGAM BIOTECHNOLOGY RESEARCH INSTITUTE et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION


If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



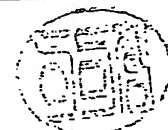
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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/KR2005/000075

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☒ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☒ in written format
☒ in computer readable form
 - c. time of filing/furnishing
☒ contained in the international application as filed.
☒ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/KR2005/000075

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 21	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1 - 21	NO
Industrial applicability (IA)	Claims	1 - 17	YES
	Claims		NO

2. Citations and explanations :

The following document is referred to in this report:

D1: WO 01/19868 A1 (22 Mar. 2001)

1. Novelty

Claims 1-21 of the present invention relate to a therapeutic agent for treatment of cancer comprising human apolipoprotein(a) kringle LK68 or LK8 genes as an effective ingredient, and gene therapy for treating cancer using the same.

D1 discloses that human apolipoprotein(a) kringle LK68 and LK8 inhibit tumor-induced angiogenesis and they can be used as anticancer agents.

D1 differs from the present invention in that the anti-cancer agents are LK68 and LK8 themselves instead of LK68 and LK8 genes.

Therefore, claims 1-21 of the present invention are considered to be novel [Article 33(2) PCT].

2. Inventive Step

Once a protein is known to be effective as a drug, a gene therapy using the genes coding the said protein is easily expected by a man skilled in the art.

Furthermore, the vectors and gene delivering methods described in claims 1-21 show the general state of the art and no surprising effect was reported.

Therefore, the inventive step of claims 1-21 cannot be acknowledged over D1 [Article 33(3) PCT].

3. Industrial Applicability

The subject-matter of claims 1-17 appears to be industrially applicable.

Claims 18-21 relate to a method of therapeutic treatment. Concerning the assessment of the industrial applicability of the subject-matter relating to therapeutic applications, no unified criteria exist in the PCT. The patentability can also be dependent upon the formulation of the claims [Article 33(4) PCT].

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